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The Bigness Mystique and the Merger Policy Debate: A Comment from West Germany

*Ingo L.O. Schmidt**

I. INTRODUCTION

After eight years of an antitrust policy dominated by the principles of the Chicago School,¹ which is better characterized as a protrust merger policy, the United States and the European Community are confronted with a new wave of mergers. The arguments for mergers are the same as in the 1960s: merger-induced bigness promotes international competition, efficiency, and technological progress. In this context, Adams and Brock in their excellent analysis ask the right questions:

But did merger-induced corporate giantism provide salvation for European industry? Did it provide world-class competitiveness? Was it a success and a model of industrial policy worthy of emulation?²

Adams and Brock provide answers by analyzing mergers and their

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¹ See Schmidt & Rittaler, *A Critical Evaluation of the Chicago School of Antitrust Analysis*, in *STUDIES IN INDUSTRIAL ORGANIZATION* VOL. 9 (H. de Jong & W. Shepherd eds. 1989).

² Adams & Brock, *The Bigness Mystique and the Merger Policy Debate: An International Perspective*, 9 *NW. J. INT'L L. & BUS.* 1, 8 (1988).

post-merger performance in the United Kingdom, France, West Germany, Italy, and Japan. Their country analyses leave space for further work. Therefore, this Article provides deeper insight into West Germany's merger activity and its merger results.

The Article first charts the development of concentration in the 1970s and 1980s. Second, it presents two empirical studies which rely on West German data, and which analyze the nexus between technological progress, firm size, and efficiency. Finally, two case studies illustrate problems induced by merger and exemplify the author's scepticism on bigness.

II. The Development of Concentration in West Germany

A. The Merger Activity Since 1970

Official merger statistics are compiled in West Germany by the Federal Cartel Office, the Bundeskartellamt. The following table is based on data from the Bundeskartellamt. It gives an overview of the merger activity and structure since 1970. Due to changes in the law on merger reporting, the Bundeskartellamt's figures are imprecise and have to be interpreted with caution.³ Despite these methodological caveats, some general conclusions on the merger activity and merger structure can be drawn. As table 1 shows, merger activity rose significantly over the last seventeen years. In the 1970s, the number of mergers grew exponentially followed by a slight decline in the early 1980s. Since 1984, merger activity has accelerated, and, in 1986, reached a hitherto unparalleled peak of 802 mergers. According to the latest data, this trend seems to be continuing. In 1987, the number of mergers amounted to 887.⁴

There are three types of merger most commonly used, horizontal, vertical, and conglomerate. Horizontal mergers are divided into horizontal mergers with or without product extension. Product extension mergers can be understood as a border-line case of horizontal and conglomerate mergers. The Bundeskartellamt subsumes product extension mergers under the category of horizontal mergers, because the Law against Restraints of Competition⁵ makes it easier to prosecute horizontal rather than conglomerate mergers. Horizontal mergers remain the largest single category throughout the whole period of inquiry. Their share oscillated around 70%, with peaks in the early 1970s (1972: 81.6%

³ For the methodological problems, see Monopolkommission, Fifth Main Report, Hauptgutachten 1982/1983: Ökonomische Kriterien für die Rechtsanwendung ¶ 698 (1984).

⁴ See *Monopoly mit Milliarden*, *Wirtschaftswoche*, Dec. 9, 1988, at 41.

⁵ The Law Against Restraints of Competition, *Gesetz gegen Wettbewerbsbeschränkungen*, enacted on July 27, 1957, became effective on January 1, 1958 [1957] BGBI.I, 1081.

Table 1: Mergers Notified under Section 23 of the Act against Restraints of Competition

Type	Horizontal			Vertical	Conglomerate	Total
	without	with	Total			
	Product Extension					
Year	Number %	Number %	Number %	Number %	Number %	Number %
1970	138 47.4	79 27.1	217 74.6	27 9.3	47 16.2	291 100.0
1971	116 53.0	51 23.3	167 76.3	19 8.7	33 15.1	219 100.0
1972	170 63.7	48 18.0	218 81.6	21 7.9	28 10.5	267 100.0
1973	148 60.9	48 19.8	196 80.7	19 7.8	28 11.5	243 100.0
1974	163 51.3	72 22.6	235 73.9	50 15.7	33 10.4	318 100.0
1975	264 58.9	72 16.1	336 75.0	53 11.8	59 13.2	448 100.0
1976	215 47.5	68 15.0	283 62.5	113 24.9	57 12.6	453 100.0
1977	274 49.5	93 16.8	367 66.2	122 22.0	65 11.7	554 100.0
1978	280 50.2	116 20.8	396 71.0	93 16.7	69 12.4	558 100.0
1979	273 45.3	113 18.8	386 64.1	111 18.4	105 17.4	602 100.0
1980	226 35.6	175 27.6	401 63.1	140 22.0	94 14.8	635 100.0
1981	283 45.8	104 16.8	387 62.6	124 20.1	107 17.3	618 100.0
1982	307 50.9	69 11.4	376 62.4	73 12.1	154 25.5	603 100.0
1983	264 52.2	71 14.0	335 66.2	53 10.5	118 23.3	506 100.0
1984	305 53.0	72 12.5	377 65.6	64 11.1	134 23.3	575 100.0
1985	347 48.9	102 14.4	449 63.3	77 10.9	183 25.8	709 100.0
1986	469 58.5	102 12.7	571 71.3	74 9.2	157 17.6	802 100.0

Sources: Monopolkommission, Fifth Main Report, Baden-Baden 1984, para. 700, and Bundeskartellamt, Activity Report 1983/1984, in: BTDr 10/3550, p. 131, and Activity Report 1985/1986, in: BTDr 11/554, p. 119.

and 1973: 80.7%) and lows in the early 1980s (1981: 62.6% and 1982: 62.4%). In 1986, the percentage of horizontal mergers rose sharply to 71.3%, which is the highest percentage since 1975. Nevertheless, the dominant role of the horizontal mergers should not be overrated, because some of the product extension mergers could also be understood as conglomerates.

Vertical mergers have experienced the largest percentage variations. For example, in 1976, the percentage of vertical mergers was about two times higher than in 1975. It is, apart from the horizontal mergers with product extension, the only category which has not shown a significant upward trend since the amendment of the Law against Restraints of Competition in 1973.⁶ Because of their small share, vertical mergers are of minor importance for antitrust policy.

⁶ Second Amendment to the Law Against Restraints of Competition of August 4, 1973, [1973] BGBI.I 917.

The importance of conglomerate mergers has risen since 1973. Except for the 1986 value, their share showed an overall positive trend.

B. The Role of the Largest West German Industrial Firms

An in-depth analysis on the growth rate of West Germany's 100 largest firms reveals a double-edged development in the role of the largest West German industrial firms. On the one hand, the slight decrease in the share of the aggregate value added⁷ of the leading 100 firms, suggests that the danger of concentration of productive resources under the control of a few decision making units is not acute. On the other hand, the increase in the share of the aggregate value added of the ten largest West German companies indicates that these firms need to be watched with care.

Firm size can be measured in several ways. The underlying measure in table 2 is that of value added.⁸ Table 2 shows a slight decrease in

Table 2: The Share of the 100 Largest German firms of the Aggregate Value Added

Year	Share
1978	19.3%
1980	19.5%
1982	19.1%
1984	18.7%
1986	18.8%

Source: Monopolkommission, Seventh Main Report, Baden-Baden 1988, para. 290.

aggregate concentration since the beginning of the 1980s. However, a more differentiated perspective sheds full light on the economic significance of large enterprises. Therefore, table 3 splits up the group of 100 largest firms into classes of 10 according to ranking.

Table 3 shows striking gaps between the rank groupings. The first ten firms alone achieve a higher share of the aggregate value added than the following thirty, and the first twenty achieve more than the remaining eighty. Furthermore, the importance of the ten largest enterprises rose sharply to an unprecedented peak in 1986 after a slight decline in the preceding periods. This rise, to a certain extent, is due to the extraordinarily high growth rate of the Daimler-Benz AG, West Germany's

⁷ "Value Added" is the value added to raw materials as they go through each stage of the manufacturing process.

⁸ The value added is considered as the ideal measure of aggregate concentration. See Pohmer & Kroenlein, *Wertschöpfungsrechnung, betriebliche*, in *HANDWÖRTERBUCH DES RECHNUNGSWESENS* 1919 (E. Kosiol ed. 1970).

Table 3: Table 2 Subdivided in Rank Groups

Ranking	Share in %				
	1978	1980	1982	1984	1986
1 - 10	7.03	7.45	7.29	7.27	7.72
11 - 20	3.82	3.46	3.55	3.27	3.48
21 - 30	2.06	2.01	2.10	2.01	1.92
31 - 40	1.47	1.56	1.51	1.39	1.29
41 - 50	1.12	1.11	1.09	1.11	1.07
51 - 60	0.95	1.06	0.95	0.99	0.96
61 - 70	0.88	0.84	0.78	0.84	0.77
71 - 80	0.76	0.74	0.68	0.71	0.63
81 - 90	0.65	0.66	0.61	0.57	0.53
91 - 100	0.53	0.58	0.54	0.52	0.47

Source: Monopolkommission, Seventh Main Report, para. 292.

number one enterprise since 1986.⁹ The second group (11-20), however, could not regain its share of 1978 by 1986 and lost relative to the first group.

The double-edged development of West German concentrations is clear. The 100 largest firms are not enlarging their share of aggregate value added in a manner that threatens to place the concentration of productive resources under the control of a few decision-making units which might harm West Germany's competitive industrial structure and its political system. However, the development of the ten largest firms has grown from a share of only 6.55% in 1970 to 7.72% in 1986, an 18% increase. This movement warrants close watch.

In response to anti-merger sentiments, West German industrial leaders argue that their companies are dwarfs compared to their international competitors.¹⁰ Worldwide, West German firms do not appear among the ten largest enterprises.

This argument fails to consider that the largest West German firms show far higher growth rates than their United States counterparts. The differences between the two have diminished in the last years as table 5 shows.

In addition to the international competition argument, West German industry points out that external growth is the appropriate way of

⁹ See Monopolkommission, Seventh Main Report, Hauptgutachten 1986/1987: Die Wettbewerbsordnung erweitern ¶ 292 (1988).

¹⁰ *Id.* at ¶ 314.

Table 4: The Three Largest German Industrial Firms in International Comparison in 1984 and 1986

Firms (Location) (Worldwide Ranking)	Turnover (Million US-\$)		Worldwide Ranking	
	1986	1984	1986	1984
General Motors (USA)	102,814	83,890	1	3
Exxon (USA)	69,888	90,854	2	1
Royal Dutch/ Shell Group (GB/NL)	64,843	84,865	3	2
Ford Motor (USA)	62,716	52,366	4	5
IBM (USA)	51,250	—	5	—
Mobil (USA)	—	56,047	—	4
.....
Daimler-Benz	30,169	15,274	13	35
Volkswagen	24,317	16,035	18	32
Siemens	20,307	16,638	25	30

Source: Monopolkommission, Seventh Main Report, para. 313.

realizing economies of scale quickly, and of speeding up technological progress. These two arguments need to be examined critically against empirical evidence.

III. EMPIRICAL STUDIES ON EFFICIENCY AND TECHNOLOGICAL PROGRESS

A. The Cable, Palfrey, and Runge Study¹¹

Two empirical studies show that the thesis of automatic efficiency gains by merger is not tenable. The first is a remarkable analysis carried out at the International Institute of Management of the Science Center Berlin by Cable, Palfrey, and Runge. They examined the determinants and effects of mergers on West Germany. The authors compiled a sample of 134 merger cases. Data problems reduced it to a final sample of 55 mergers, all of which took place between 1964 and 1974. The sample represents 3.1% of all mergers falling under Section 23¹² of the Law against Restraints of Competition during this period. Fifty-seven randomly chosen firms served as a control group. The authors tried as far as

¹¹ Cable, Palfrey, & Runge, *Federal Republic of Germany, 1964-1974*, in *THE DETERMINANTS AND EFFECTS OF MERGER* 99 (D. Mueller ed. 1980).

¹² The Law Against Restraints of Competition, *supra* note 5, at section 23.

Table 5: The Largest Companies of Selected Branches in
International Comparison

Enterprises	Turnover (Billion US-\$)		Employees (1,000)		Changes (%)	
	1986	1962	1986	1962	Turnover	Employees
Automobile industry						
General Motors	102.8	14.7	876	605	+ 599	+ 45
Volkswagen	24.3	1.4	282	90	+1,636	+ 213
Daimler-Benz	30.2	1.2	320	100	+2,417	+ 220
Electronic Industry						
General Electrics	35.2	4.8	359	258	+ 633	+ 39
Siemens	20.3	1.4	363	240	+1,350	+ 51
Chemical Industry						
Du Pont	27.1	2.4	141	93	+1,029	+ 52
Bayer	18.8	1.0	170	76	+1,780	+ 124

Source: Monopolkommission, Seventh Main Report, para. 315.

possible to pair merging firms with companies of the control group by reference to both size and industry.

First, the authors compared the characteristics of merging and nonmerging firms.

[T]he general picture that emerges is of acquisitions of smaller by extremely large firms with average to good profitability and growth records, significantly more stable profits than the other groups, and higher leverage ratios than nonacquiring companies. . . . The acquired companies. . . were somewhat larger than nonmerging firms and were possibly less profitable and certainly much slower growing than nonacquired companies.¹³

The authors next statistically compared differences in the profit performance,¹⁴ including the average profit rate of the industry and the projected profit rates, between merging firms and their counterparts in the control group. While the differences in the profit performance were not statistically significant, the merging firms were consistently higher than their nonmerging counterparts. To determine whether these positive differences resulted from efficiency gains or increased market power the authors analyzed the output changes of the merging firms with the output changes of the matched nonmerging firms, with the output change of their industry, and with the projected performance. As proxies for the

¹³ Cable, Palfrey, & Runge, *supra* note 11, at 120.

¹⁴ Profit measured in return on assets, on equity, and on sales.

real output they used assets, equity, and sales. Again they could not find a statistically significant result.

[A]ll the differences in terms of assets [and equity] are positive. . . , whereas for sales revenue they are consistently negative. Bearing in mind that there are more sources of positive than of negative bias on the asset's measure, whereas the tendency will be for the sales revenue changes to be pulled toward zero, there are some grounds for suspecting a tendency for output to fall.¹⁵

Summarizing their results, the authors concluded:

Strictly speaking, this implies that while mergers do not demonstrably do great harm, neither do they appear to do positive good. When, however, we look at the overall pattern of results, observing the numbers and distribution of positive and negative signs, the suggestion is less one of exploited efficiency improvements and output gains and more indicative of increased market power.¹⁶

A second empirical study in Austria done by Aiginger and Tichy found that large companies performed worse with respect to labor productivity and profitability than small companies. As a good example, they emphasize that even smallest companies have access to computer technology. According to Aiginger and Tichy, economic policy should ensure an economy with a mixed structure of small, medium, and large firms.¹⁷ Both studies show that merger does not necessarily promote automatic efficiency gains.

B. Ifo's Innovationist

Since Solow's and Denison's empirical studies, technological progress is commonly known and accepted as an important factor for aggregate growth.¹⁸ Today, the theory of innovation is the dominating part of modern growth theory.¹⁹ Where unemployment rates are high, as in West Germany since the beginning of the 1980s, innovation policy, as a way of growth, gains additional and decisive attention.²⁰ Representatives of large West German firms adhere to the Schumpeter hypothesis in their efforts to support mergers. Schumpeter pointed out in the 1940s:

[I]t is not sufficient to argue that because perfect competition is impossible

¹⁵ Cable, Palfrey & Runge, *supra* note 11, at 128.

¹⁶ *Id.* at 130.

¹⁷ See K. AIGINGER & G. TICHY, *DIE GRÖSSE DER KLEINEN* 56, 149 (1984).

¹⁸ See Solow, *Technical Change and the Aggregate Production Function*, 39 *REV. ECON. & STATISTICS* 312 (1957); E. DENISON, *ACCOUNTING FOR UNITED STATES ECONOMIC GROWTH: 1929-69*, at 131-37 (1974).

¹⁹ See C.C. VON WEIZSÄCKER, *ZUR ÖKONOMISCHEN THEORIE DES TECHNISCHEN FORTSCHRITTS*, 9 (1966).

²⁰ See SCHMALHOLZ & SCHOLZ, *INNOVATIONSDYNAMIK DER DEUTSCHEN INDUSTRIE IN DEN ACHTZIGER JAHREN*, 1/2 IFO-SCHNELLDIENST 20 (1987).

under modern industrial conditions . . . the large-scale establishment or unit of control must be accepted as a necessary evil inseparable from the economic progress which it is prevented from sabotaging by the force inherent in its productive apparatus. What we have got to accept is that it has come to be the most powerful engine of that progress and in particular of the long-run expansion of total output.²¹

Whether the Schumpeterian hypothesis is valid cannot be settled on theoretical grounds alone since economic theory does not provide a consistent theoretical foundation for technological progress.²² The validity of the Schumpeterian hypothesis remains largely a question for empirical analysis. Due to the lack of a theoretical basis, the empirical studies are heterogeneous and contradictory.²³ They at least show that it is a dangerous oversimplification to equalize bigness and monopolistic power with rapid technological progress.

Since 1979, the Ifo Institute in Munich has carried out annually an innovation test which was marked as internationally extraordinary at the OECD Workshop on innovation statistics in Paris in 1986. The Ifo innovation test consists of a survey of 5,000 firms in the West German manufacturing sector. It supplies an empirical basis for the strategic planning of the surveyed firms, for West German innovation policy, and for the theory of innovation.²⁴

The Ifo Institute considers a firm innovative if it introduces a process or product innovation to a market. It uses a subjective definition of innovation where the firm itself decides which product or process is considered as "new." By relying on this definition of innovation, the Ifo Institute avoids the problems connected with patents as an innovation output measure.²⁵

Results of the studies follow. In West Germany, 97.5% of all firms (33,400) in the manufacturing sector have less than 1,000 employees. Seventy percent of these firms are, under the Ifo definition, innovative. Already, two conclusions can be drawn.²⁶ First, innovative activity be-

²¹ J. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY*, 106 (4th ed. 1975).

²² See U. WITT, *INDIVIDUALISTISCHE GRUNDLAGEN DER EVOLUTORISCHEN ÖKONOMIK* 1 (1987).

²³ For an excellent survey, see M. KAMIEN & N. SCHWARTZ, *MARKET STRUCTURE AND INNOVATION*, 49 (1982).

²⁴ Schmalholz & Scholz, *supra* note 20. For a detailed description of the innovation test see Oppenländer, *Der Ifo-Innovationstest - ein neues Instrument zur Erfassung des F- und E-Outputs*, in *STATISTIK ZWISCHEN THEORIE UND PRAXIS, FESTSCHRIFT FÜR KARL-AUGUST SCHÄFFER* 144 (G. Buttler ed. 1985).

²⁵ See F. MEYER-KRAHMER, *INNOVATIONSFÖRDERUNG BEI KLEINEN UND MITTLEREN UNTERNEHMEN* 67 (1982).

²⁶ Schmalholz, *Sind Kleine oder Grösse Unternehmen Innovationsfreudiger?*, 38 *DER BÜRGER IM STAAT* 186 (1988).

longs to the daily tasks of a firm in a competitive economy. Second, small and medium-sized firms carry a substantial part of the innovative burden.

Table 6 shows the distribution of innovative and non-innovative firms among different size classes. The share of innovative firms with

Table 6: Distribution of Innovative and Non-innovative Firms in the Manufacturing Sector (average of the years 1982 to 1986)

Employees	Innovative Firms in %	Non-innovative Firms in %	Non-innovative because	
			of no Necessity in %	of Barriers in %
20- 49	38	62	68	32
50-199	58	38	73	27
200-999	68	22	82	18
1,000-	80	11	77	23
Ø in %	70	23	76	24

Source: Schmalholz, Heinz, *Sind kleine order große Unternehmen innovationsfreudiger*, 38 *Der Bürger im Staat* 1988, 186.

(The shares of the innovative and non-innovative firms do not amount to 100% as the share of the firms with not yet completed projects is not included in the table.)

1,000 employees and more is twice as large as the share of the smallest firms. This discrepancy is not surprising, because large firms are often highly diversified and are therefore under innovative pressure in several product markets.²⁷ The pressures for innovation in large firms correspond to the small specialized firms' argument that often an innovation is at the time not necessary (68% of the non-innovative small firms). The real barriers for non-innovative small firms are financial rather than lack of opportunities or propensity to innovate.

Table 7 confirms the importance of small firms in the innovation process. The smallest firms (20-49 employees) have the highest research and development ("R&D") intensity, measured by the relation of the R&D budget to the turnover of the firm.²⁸

At this point, it becomes obvious that both large and small firms contribute to technological progress, but their roles in this innovation process differ strongly. First, the innovations of small and medium-sized firms are mainly demand side induced (60%). Small and medium-sized firms are active in markets where customer contact and individual customer orientated solutions are important strategic variables. In this context the short and flexible decision making process, guaranteed only in

²⁷ See R. BÜSCHER, *DIAGONALE UNTERNEHMENSZUSAMMENSCHLÜSSE IM AMERIKANISCHEN UND DEUTSCHEN RECHT* 46 (1983).

²⁸ See Schmalholz, *supra* note 26, at 187.

Table 7: R&D-Intensities

	Employees				
	20-49	50-199	200-999	1,000 and more	Σ
Share of the R&D on Turnover	6.9	4.9	4.0	5.7	5.2

Source: Schmalholz, Heinz, Sind kleine oder große Unternehmen innovationsfreudiger?, supra, 187.

small companies, is of decisive importance. An analysis of the technology orientated supply side induced innovations shows a significant bias for large firms.²⁹

Second, if technological progress is separated into the stages invention, innovation, and diffusion, small and medium-sized firms excel at the stage of innovation. An empirical analysis of the Ifo Institute found out that 70% of the firms with an annual turnover of DM10-50 million try to introduce an innovation to the market within the first two years. Large firms, DM1 billion and more, used only 33% of their inventions in the first two years as can be seen in table 8.³⁰

Large firms showed superior performance during the invention and diffusion stages. At the invention stage large companies have no financial problems even for risky basic research. Their better access to the capital markets secures for them at this point an advantage over small firms. During the diffusion, the big pools of resources of large firms allow them to produce at the optimum scale. Small firms are often confronted with capacity problems at this stage.³¹

These empirical findings allow the conclusion that technological progress is most fostered in an economy where both small and large firms are present and supplement each other. This conclusion is supported by the latest empirical study on this issue at the Science Center, Berlin. Acs and Audretsch concluded, “[o]ur results are unequivocal - industry inno-

²⁹ *Id.*

³⁰ Oppenländer, *Zur Innovationskraft kleiner und mittlerer Unternehmen*, 32 IFO-STUDIEN 132 (1986). This corresponds with a theoretical model from Scherer which shows that in a market dominated by small and medium-sized firms with little market power the customer gets the innovation earlier and at a lower price. See Scherer, *Research and Development Resource Allocation under Rivalry*, 81 Q.J. ECON. 359 (1967).

³¹ Oppenländer, *supra* note 30, at 132. For a good empirical analysis of the problems of small and medium-sized firms in the innovation process see Genosko & Halbritter, *The Innovation Process in Small and Medium-Sized Firms - An Empirical Analysis*, in THEORIES AND POLICIES OF TECHNOLOGICAL DEVELOPMENT AT THE LOCAL LEVEL (R. Cappillin & E. Ciciotti eds. 1989).

Table 8: Usage of Inventions (share of economically used inventions in %)

Firm Size (Mio. DM)	Time between an Invention and its Market Introduction in Years						Not introduced yet
	1	2	3	4	5	6 and more	
below 10	10	48	61	69	72	15	13
10- 50	40	70	78	87	88	6	6
50- 250	32	58	66	70	74	7	19
250-1000	26	55	65	69	71	7	22
1000 and more	15	33	43	50	54	11	35
$\bar{\theta}$ in %	24	28	57	63	66	9	25

Source: Oppenländer, Karl Heinrich, Zur Innovationskraft kleiner und mittlerer Unternehmen, 32 Ifo-Studien 1986, 140.

vation tends to decrease as the level of concentration rises.”³²

In summary, the Schumpeterian hypothesis, that large-scale establishments are the most powerful engines of progress and of expansion of total output, lacks empirical as well as theoretical grounds. Hence, it should not be viewed as a guiding star for industry or antitrust policy.

IV. CASE STUDIES ON MERGERS AND POST-MERGERS PERFORMANCE

A. The AEG Case

Empirical evidence supports the thesis that firm size and merger are not positively correlated with productive efficiency. The following case studies exemplify the problems large firms have in wrestling to realize potential economies and make technological progress by merger.

In August 1982, Allgemeine Elektrizitäts Gesellschaft (“AEG”), one of the largest and most ambitious industrial firms in West Germany, was forced to announce an out-of-court settlement.³³ The settlement resulted from a chain of mistakes in the firm’s management, and from the inability of the banks represented on the board of supervisors to forestall faulty firm strategy. One major setback for AEG was its involvement in the production of nuclear power plants.³⁴ The massive losses in this sector were caused, among other things, by the hasty decision of AEG to

³² Acs & Audretsch, *Innovation in Large and Small Firms: An Empirical Analysis*, 78 AM. ECON. REV. 688 (1988).

³³ *Wat is denn, wenn die Mutter AEG absäuft?*, Der Spiegel, Aug. 16, 1982, at 17.

³⁴ Lenel, *Staatshilfe für insolvente Grossunternehmen?, Das Beispiel AEG*, 33 WIRTSCHAFT UND WETTBEWERB 429 (1983).

compete against its rival, Siemens, in the construction of nuclear power plants. The hasty entry into the market meant that AEG faced unsolvable technical problems and a supply below cost covering prices. In addition to losses in the nuclear power plant sector, AEG lost its complete share of the power plant sector.³⁵

AEG's engagement in the nuclear sector can be justified as an effort to keep in touch with the technological development in this industry. Its strategy in the market for household appliances, however, was dominated by the struggle for a leading market position.³⁶ In 1965, AEG started out on a series of mergers with the purchase of the majority of the Küppersbusch AG. After two years, the merger with the Linde Hausgeräte GmbH followed. In 1969, the Karl Neff GmbH and the Ako Werke were acquired. In the following year, the Alno Moebel GmbH, the Witte Haustechnik GmbH, and the Hermann Zanker KG were integrated. In addition, AEG started a joint venture with the Italian household appliance producer Zanussi. Leaving aside Zanussi, AEG produced household appliances in sixteen different plants in 1973.³⁷ These acquisitions required DM2.8 billion, four-fifths of which had to be financed by debt.³⁸

This rapid expansion overstrained AEG. The management, which experienced frequent personal changes as eight presidents superseded one another from 1945 to 1979,³⁹ was not able to keep pace with the extent and the speed of the acquisitions in the household appliances sector. Thus, no satisfying integration conception was developed to integrate the purchased firms. In addition, the rapid expansion resulted in financial problems, as the acquired firms did not yield the expected profits. Consequently, the return on investment did not cover the burden of interest caused by the debt financed acquisitions, especially in times of high interest rates.⁴⁰

The development of AEG yields several conclusions. First, AEG's external growth did not lead to the expected efficiency gains by the "natural rivalry"⁴¹ between the management teams of the different affiliated companies. Rather, a huge bureaucracy was established in the course of the expansion which paralyzed the management and made minor pro-

³⁵ *Id.* at 431.

³⁶ *Id.* at 432.

³⁷ *Id.* at 434.

³⁸ *AEG: Weltfirma am Abgrund*, Der Spiegel, Nov. 19, 1979, at 83.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ Lenel, *supra* note 34, at 436 (quoting former AEG president Hans Constantin Boden in 1969).

ceedings result in large volumes of files.⁴² Second, the fact that the firm's dominating goal was to excel over its rival, Siemens, no matter what, elucidates that firms do not merge only for efficiency reasons, but also for typical management goals like personal prestige or personal power.⁴³ Finally, AEG's losses which were born in part by the West German taxpayer, could have been avoided had the West German merger control been embodied in the Act against Restraints of Competition before 1973.

B. The Volkswagen/Triumph-Adler Case⁴⁴

In 1979, Volkswagen, using its profits of the late 1970s, paid DM700 million for 98.4% of the shares of Triumph-Adler-Werke Nuernberg AG, in an effort to diversify into fields outside the automobile industry. The Bundeskartellamt denied the existence or strengthening of a market dominating position in the sense of Section 22 of the Act against Restraints of Competition. It classified the merger as a conglomerate one. Whereas Volkswagen was in car manufacturing, Triumph-Adler was an important producer of typewriters and personal computers ("PCs"). The Bundeskartellamt regarded both firms to be exposed to substantial competition in their respective markets. Although, Triumph-Adler would be a potential car electronics supplier, vertical aspects played only a minor role in the classification. The existence of the firm, Bosch, an important supplier of car electronics to the automobile industry made substantial horizontal market foreclosure unlikely in this case.

Nevertheless, in the early 1980s, Volkswagen suffered losses in the computer field of up to DM1.5 billion that could not be offset by profits from the electronic typewriters. In 1986, Volkswagen resold its shares of Triumph-Adler for about DM300 million to Olivetti, an Italian producer of typewriters and PCs. Simultaneously, Volkswagen paid DM600 million to Olivetti for 5% of the shares of the Italian firm. The new Italian management of Triumph-Adler initiated a division of production between Olivetti and Triumph-Adler. Triumph-Adler concentrated on the production of electronic typewriters whereas Olivetti concentrated on PCs.

The Bundeskartellamt agreed to this horizontal merger in the field of electronic typewriters despite the fact that Olivetti/Triumph-Adler had a combined market share of between 36% and 39%. Because IBM, Olympia, a subsidiary of Daimler Benz, and the Japanese firms presented strong price and innovation competition for Triumph-Adler, the

⁴² *AEG: Weltfirma am Abgrund*, *supra* note 38, at 86.

⁴³ Schmidt & Rittaler, *supra* note 1, at 6.

⁴⁴ *Triumph-Adler: Der Sanierer kommt*, *Wirtschaftswoche*, Aug. 1, 1986, at 70.

Bundeskartellamt did not find any existence or strengthening of a market dominating position of Olivetti/Triumph-Adler.

This conglomerate merger exemplifies how management can underestimate the difficulties of doing business in different fields. Where management is unfamiliar with the fields, it faces problems in specific areas like R&D production and distribution.⁴⁵

V. CONCLUSION

This Article presented data on a new merger wave in West Germany. In most cases, these mergers were justified by efficiency gains or by the furthering of technological progress. However, further empirical studies in West Germany repudiate the justifications behind the new mergers.

Cable, Palfrey, & Runge found in their study no indication of significant efficiency gains after mergers. The Ifo Institute presented data which illuminate the role of large and small firms in the innovation process and prove that both types are complementary. The AEG case illustrated in an impressive way how the management of large firms exercised a lower decision rationality in the allocation of financial resources compared with the market mechanism. Finally, the Volkswagen/Adler-Triumph case demonstrated how conglomerate mergers present tough management problems which are often underestimated.

These findings support the position presented by Adams and Brock for different industrialized countries.

⁴⁵ Cf. D. RAVENSCRAFT & F. SCHERER, *MERGERS, SELL-OFFS, AND ECONOMIC EFFICIENCY* 192, 239 (1987).